frequency as the open NHANES study, K&L < 2 is 93%. These scores were much lower compared with the OA (MAK) study, all patients had K&L ≥ 2. The participants in the CHECK study have less pain, stiffness and less limitation to do their daily life activities, compared to the mild OA (Hong Komg) study and better results compared to the general older population with knee pain. In the CHECK cohort all dimensions on the SF 36 had a higher score compared with the severe OA (Hong Kong) study. Compared with a general older population, CHECK scored lower on the physical components of the health related quality of life (HRQL).

Conclusions: We were able to form a unique cohort of 1002 participants with complaints of *early* OA, different from the well-described cohorts. The CHECK study has only 8% radiological OA. Complaints like pain, stiffness and limitations in their activities were less compared with a heterogenic general older population with knee pain, as well as less severe compared to an established OA population. In the early OA study only the physical components of the HRQL were worse compared to a healthy open population, compared to an OA population all dimensions of the HRQL were better.

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A 5 YEAR PROSPECTIVE STUDY OF PATIENT RELEVANT OUTCOMES AFTER TOTAL KNEE REPLACEMENT

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Purpose: To prospectively describe self-reported outcomes up to five years after total knee replacement (TKR) in OA and to study which patient relevant factors may predict outcome in pain and physical function.

Methods: 102 consecutive patients with knee OA, 63 women and 39 men, mean age 71 (51-86) assigned for TKR at the Department of Orthopaedics at Lund University Hospital were included in the study. The self-administered questionnaires Knee injury and Osteoarthritis Outcome Score (KOOS) and SF-36 were mailed preoperatively, at 6, 12 months and at 5 years postoperatively.

Results: Response rate at 5 years was 86%. At 6 months significant improvement was seen in all KOOS and SF-36 scores ($p<0.001$). The percentage of patients performing more demanding functions related to sports and recreation increased postoperatively. The best post-operative result was reported at the 1 year follow-up. Compared to the 1 year follow-up, a significant ($p\leq0.01$) decline was seen at 5 years in the KOOS subscale ADL function (82-73) and the SF-36 subscales bodily pain (72-63), physical function (61-51) and vitality (69-59). Patients who scored in the lowest quartile preoperatively in the KOOS subscales pain and ADL made the greatest improvements to one year (18 to 82, 22 to 80) but also declined the most from 12 months to 5 years (82 to 72, 80 to 66). Being 10 years older pre-operatively predicted 5-7 points worse scores in KOOS pain and KOOS symptoms at 1 and 5 years. When adjusted for age, sex and co-morbid conditions, pre-operative SF-36 scores did not predict KOOS pain or physical function scores postoperatively.

Conclusions: Compared to preoperatively, a significant improvement was seen still at 5 years postoperatively. However, the best result was reported at one year, indicating a decline from 1 to 5 years after total knee replacement. To fully evaluate the results of TKR with regard to pain and physical function, follow-ups longer than 2 years are needed, and items of more demanding physical functions should be included. Older age to some extent predicted more pain and other symptoms postoperatively, however no predictors of postoperative physical function were found, indicating the difficulty of determining preoperatively who will benefit more or less from the procedure.

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REPRODUCIBILITY OF COMPUTER-ASSISTED JOINT ALIGNMENT MEASUREMENT IN OA KNEE RADIOGRAPHS

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Purpose: 1) To examine the reproducibility of computer-assisted measurement of knee alignment angle (KA) from digitized radiographs of patients with OA and 2) to determine whether varying anatomic landmark choice when defining anatomic angle affects precision in KA measurement.

Methods: From 16 healthy (14F, 2M; 41$\pm$12 yrs; BMI = 24$\pm$4 kg m^{-2}) and 30 total knee arthroscopy (TKA) (17F, 13M; 66$\pm$9 yrs; BMI = 31$\pm$6 kg m^{-2}) volunteers, X-rays were taken from 54 knees with (n = 38) and without (n = 16) radiographic OA. Posteroanterior (PA) radiographs of the knee were acquired in the fixed-flexion position. Tibiofemoral angle was determined using a custom developed software program by interactively placing three measurement-guiding rules (femoral, centre, tibial) on specific anatomic landmarks by mouse control on digitized knee radiographs. The anatomic KA subtended by lines connecting midpoints of the tibial and femoral rules to the midpoint of the centre rule was measured and converted to a mechanical KA (Figure 1).

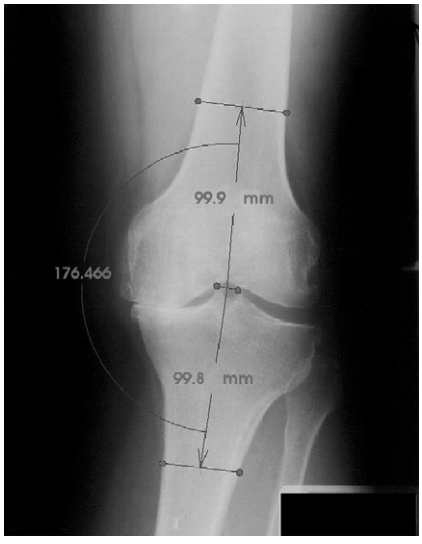

Figure 1

Knee alignment was measured by three readers to assess intraobserver, interobserver and experience-inexperience reproducibility. Test-retest reproducibility was evaluated with duplicate